Dell™ Dimension™ XPS Service Manual

Notes, Notices, and Cautions

NOTE: A NOTE indicates important information that helps you make better use of your computer.

NOTICE: A NOTICE indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.

CAUTION: A CAUTION indicates a potential for property damage, personal injury, or death.

Abbreviations and Acronyms

For a complete list of abbreviations and acronyms, see the *Dell Dimension Help* file.

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Advanced Troubleshooting

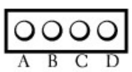
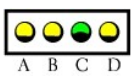
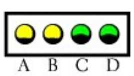
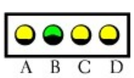
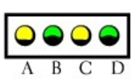
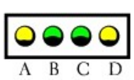
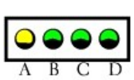
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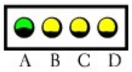
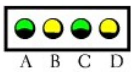
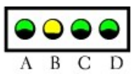
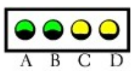
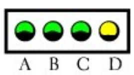
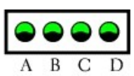
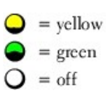
- [Diagnostic Lights](#)
- [Beep Codes](#)
- [System Messages](#)

Diagnostic Lights

To help you troubleshoot a problem, your computer has four lights labeled "A," "B," "C," and "D" on the back panel. The lights can be yellow or green. When the computer starts normally, the lights flash. After the computer starts, all four lights display solid green. If the computer malfunctions, the color and sequence of the lights identify the problem.

⚠ **CAUTION: Before you begin any of the procedures in this section, follow the safety instructions.**

Light Pattern	Problem Description	Suggested Resolution
	The computer is in a normal off condition or a possible pre-BIOS failure has occurred.	Verify that the computer is plugged into a working electrical outlet and that you have pressed the power button.
	A possible processor failure has occurred.	[Reinstall the processor](#) and restart the computer.
	Memory modules are detected, but a memory failure has occurred.	1. [Reinstall all memory modules.](#) 2. Ensure that all the connector tabs are locked. 3. Restart the computer. 4. If the problem persists, contact Dell.
	A possible expansion card failure has occurred.	1. Determine if a conflict exists by [removing a card](#) (not a video card) and then restarting the computer. 2. If the problem persists, [reinstall the card](#) that you removed, remove a different card, and then restart the computer. 3. Repeat this process for each card. If the computer starts normally, troubleshoot the last card removed from the computer for resource conflicts (If the problem persists, contact Dell).
	A possible video card failure has occurred.	- If the computer has a video card, [remove the card](#), reinstall it, and then restart the computer. - If the problem still exists, [install a video card](#) that you know works and restart the computer. - If the problem persists or the computer has integrated video, contact Dell.
	A possible floppy or hard drive failure has occurred.	Reseat all power and data cables and restart the computer.
	A possible USB failure has occurred.	Reinstall all USB devices, check cable connections, and then restart the computer.
	No memory modules are detected.	1. [Reinstall all memory modules.](#) 2. Ensure that all the connector tabs are locked.

		3. Restart the computer. 4. If the problem persists, contact Dell.
	Memory modules are detected, but a memory configuration or compatibility error exists.	• Ensure that no special memory module/memory connector placement requirements exist. • Verify that the memory modules that you are installing are compatible with your computer. • If the problem persists, contact Dell.
	A possible system board resource and/or hardware failure has occurred.	If the problem persists, contact Dell.
	A possible expansion card failure has occurred.	1. Determine if a conflict exists by removing a card (not a video card) and restarting the computer. 2. If the problem persists, reinstall the card that you removed, remove a different card, and then restart the computer. 3. Repeat this process for each card. If the computer starts normally, troubleshoot the last card removed from the computer for resource conflicts. 4. If the problem persists, contact Dell.
	Another failure has occurred.	• Ensure that the cables are properly connected to the system board from the hard drive, CD drive, and DVD drive. • If the problem persists, contact Dell.
	The computer is in a normal operating condition after POST.	None.
		

Beep Codes

Your computer might emit a series of beeps during start-up if the monitor cannot display errors or problems. This series of beeps, called a beep code, identifies a problem. One possible beep code (code 1-3-1) consists of one beep, a burst of three beeps, and then one beep. This beep code tells you that the computer encountered a memory problem.

Reseating the memory modules may fix the beep code errors in the following table. If the problem persists, see "Contacting Dell" in your *Owner's Manual* for instructions on obtaining technical assistance.

Code	Cause
1-3-1 through 2-4-4	Memory not being properly identified or used
4-3-1	Memory failure above address 0FFFFh

If you hear one of the following beep codes, see "Contacting Dell" in your *Owner's Manual* for instructions on obtaining technical assistance.

Code	Cause
1-1-2	Processor register failure
1-1-3	NVRAM
1-1-4	ROM BIOS checksum failure
1-2-1	Programmable interval timer
1-2-2	DMA initialization failure

1-2-3	DMA page register read/write failure
3-1-1	Slave DMA register failure
3-1-2	Master DMA register failure
3-1-3	Master interrupt mask register failure
3-1-4	Slave interrupt mask register failure
3-2-2	Interrupt vector loading failure
3-2-4	Keyboard Controller Test failure
3-3-1	NVRAM power loss
3-3-2	NVRAM configuration
3-3-4	Video Memory Test failure
3-4-1	Screen initialization failure
3-4-2	Screen retrace failure
3-4-3	Search for video ROM failure
4-2-1	No time tick
4-2-2	Shutdown failure
4-2-3	Gate A20 failure
4-2-4	Unexpected interrupt in protected mode
4-3-3	Timer-chip counter 2 failure
4-3-4	Time-of-day clock stopped
4-4-1	Serial or parallel port test failure
4-4-4	Cache test failure

System Messages

NOTE: If the message you received is not listed in the following table, see the documentation for either the operating system or the program that was running when the message appeared.

Message	Possible Cause	Corrective Action
`8042 Gate-A20 error`	The keyboard controller failed its test.	If you receive this message after you make changes in system setup, enter system setup and restore the original value(s).
`Address Line Short!`	An error in the address decoding circuitry in the memory has occurred.	Reseat the memory modules.
`C: Drive Error` `C: Drive Failure`	The hard drive is not working or is not configured correctly.	Ensure that the drive is installed correctly in the computer and defined correctly in system setup.
`Cache Memory Bad, Do Not Enable Cache`	The cache memory is not operating.	See "Contacting Dell" in your *Owner's Manual* for instructions on obtaining technical assistance.
`CH-2 Timer Error`	An error is occurring on the timer on the system board.	See "Contacting Dell" in your *Owner's Manual* for instructions on obtaining technical assistance.
`CMOS Battery State Low` `CMOS Checksum Failure` `CMOS System Options Not Set` `CMOS Display Type Mismatch` `CMOS Memory Size Mismatch` `CMOS Time and Date Not Set`	The system configuration information in system setup is incorrect or the battery charge may be low.	Enter system setup, verify the system configuration, and then restart the computer.
`Diskette Boot Failure`	Drive A or B is present but has failed the BIOS POST.	Ensure that the drive is installed correctly in the computer and defined correctly in system setup. Check the interface cable at both ends.
`DMA Error` `DMA 1 Error` `DMA 2 Error`	Error in the DMA controller on the system board.	The keyboard or system board may need to be replaced.
`FDD Controller Failure` `HDD Controller Failure`	The BIOS cannot communicate with the floppy drive or hard drive controller.	Ensure that the floppy drive or the hard drive is installed correctly in the computer and defined correctly in system setup. Check the interface cable at both ends.
`INTR1 Error`	An interrupt channel on the system board failed to POST.	The keyboard or system board may need to be replaced.

INTR2 Error		
Invalid Boot Diskette	The operating system cannot be located on drive A or drive C.	Enter system setup and confirm that drive A or drive C is properly identified.
Keyboard Error	The BIOS has detected a stuck key.	Ensure that nothing is resting on the keyboard; if a key appears to be stuck, carefully pry it up. If the problem persists, you may need to replace the keyboard.
KB/Interface Error	An error occurred with the keyboard connector.	Ensure that nothing is resting on the keyboard; if a key appears to be stuck, carefully pry it up. If the problem persists, you may need to replace the keyboard.
No ROM Basic	The operating system cannot be located on drive A or drive C.	Enter system setup and confirm that drive A or drive C is properly identified.

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Before You Begin

Dell™ Dimension™ XPS Service Manual

Getting Started

This section provides procedures for removing and installing the components in your computer. Unless otherwise noted, each procedure assumes that the following conditions exist:

- You have performed the steps in "Shutting Down Your Computer."
- You have read the safety information in your *Owner's Manual*.

Recommended Tools

The procedures in this document may require the following tools:

- Small flat-blade screwdriver
- Phillips screwdriver
- Flash BIOS update program floppy disk or CD

Shutting Down Your Computer

Use the following safety guidelines to help protect your computer from potential damage and to ensure your own personal safety.

CAUTION: Before you begin any of the procedures in this section, follow the safety instructions in the *Owner's Manual*.

NOTICE: Only a certified service technician should perform repairs on your computer. Damage due to servicing that is not authorized by Dell is not covered by your warranty.

CAUTION: Handle components and cards with care. Do not touch the components or contacts on a card. Hold a card by its edges or by its metal mounting bracket. Hold a component such as a processor by its edges, not by its pins.

NOTICE: When you disconnect a cable, pull on its connector or on its strain-relief loop, not on the cable itself. Some cables have a connector with locking tabs; if you are disconnecting this type of cable, press in on the locking tabs before you disconnect the cable. As you pull connectors apart, keep them evenly aligned to avoid bending any connector pins. Also, before you connect a cable, ensure that both connectors are correctly oriented and aligned.

NOTICE: To avoid damaging the computer, perform the following steps before you begin working inside the computer.

1. Shut down the computer.
2. Ensure that the computer and any attached devices are turned off. If your computer and attached devices did not automatically turn off when you shut down your computer, press and hold the power button for 4 seconds.

NOTICE: To disconnect a network cable, first unplug the cable from your computer and then unplug it from the network wall jack.

3. Disconnect any telephone or telecommunication lines from the computer.
4. Disconnect your computer and all attached devices from their electrical outlets, and then press the power button to ground the system board.
5. Remove the computer stand, if it is attached.

CAUTION: To guard against electrical shock, always unplug your computer from the electrical outlet before opening the cover.

6. Open the computer cover.

NOTICE: Before touching anything inside your computer, ground yourself by touching an unpainted metal surface, such as the metal at the back of the computer. While you work, periodically touch an unpainted metal surface to dissipate any static electricity that could harm internal components.

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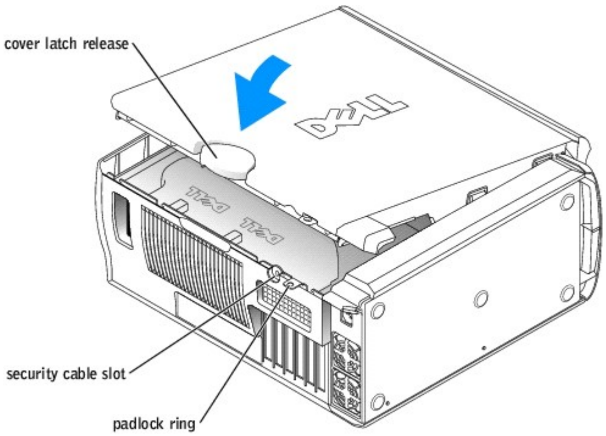
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Closing the Computer Cover

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1. Ensure that all cables are connected, and fold cables out of the way.
2. Ensure that no tools or extra parts are left inside the computer.
3. Close the computer cover:
   a. Pivot the cover down and into position.
   b. Press down on the cover to close it.
   c. Once the cover is closed, slide the cover latch release to the right until the latch clicks into place.



4. If you are using a padlock to secure your computer, install the padlock.

NOTICE: To connect a network cable, first plug the cable into the network wall jack and then plug it into the computer.

5. Connect your computer and devices to electrical outlets, and turn them on.

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Opening the Computer Cover

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CAUTION: Before you begin any of the procedures in this section, follow the safety instructions in your *Owner's Manual*.

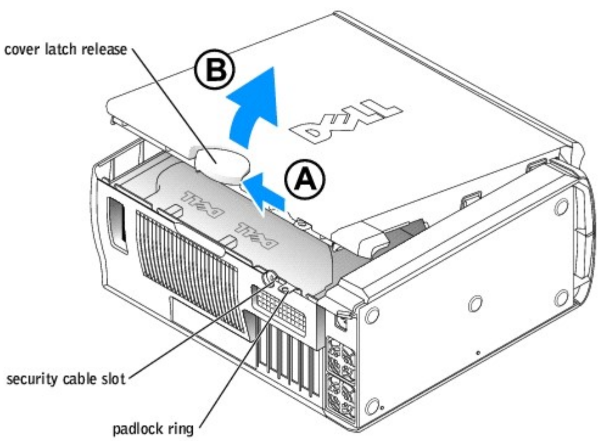
CAUTION: To guard against electrical shock, always unplug your computer from the electrical outlet before opening the cover.

1. Follow the instructions in "Before You Begin."
2. If you have installed a padlock through the padlock ring on the back panel, remove the padlock.

NOTICE: Ensure that sufficient space exists to accommodate the open cover—at least 30 cm (1 ft) of desk top space.

NOTICE: Be careful when opening the computer cover to ensure that you do not accidentally disconnect cables from the system board.

3. Lay the computer on its side with the cover latch release on the top as shown in the following figure.
4. Open the computer cover:
   a. Slide the cover latch release toward the top of the computer.
   b. Raise the cover, and pivot it toward the front of the computer.



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Removing and Installing Parts

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Memory

You can increase your computer memory by installing memory modules on the system board. For information on the type of memory supported by your computer, see "Memory."

NOTE: DDR 333 memory operates at 320-MHz when used with an 800-MHz front-side bus processor.

DDR Memory Overview

DDR memory modules should be installed in *pairs of matched memory size*. This means that if you purchased your computer with 256 MB of memory installed and you want to add another 256 MB of memory, you must install it in the appropriate connector. If the DDR memory modules are not installed in matched pairs, the computer will continue to operate, but with a slight reduction in performance.

NOTE: Always install DDR memory modules in the order indicated on the system board.

The recommended memory configurations are:

- A pair of matched memory modules installed in connectors DIMM1 and DIMM2

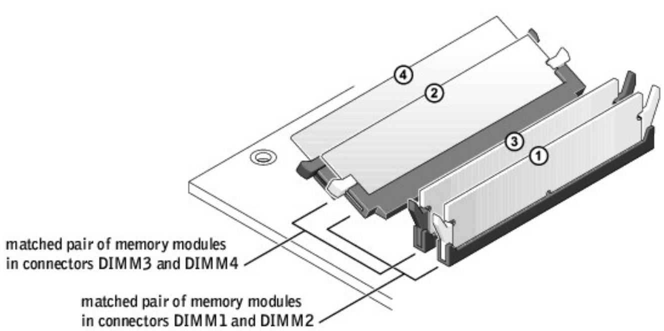
  or

- A pair of matched memory modules installed in connectors DIMM1 and DIMM2 and another matched pair installed in connectors DIMM3 and DIMM4

Additional memory recommendations include:

- Do not install ECC memory modules.
- Be sure to install a single memory module in DIMM 1 or the connector closest to the processor before you install modules in the other connectors.

Memory Installation Guidelines



NOTICE: If you remove your original memory modules from the computer during a memory upgrade, keep them separate from any new modules that you may have, even if you purchased the new modules from Dell. You should install your original memory modules in pairs either in connectors DIMM1 and DIMM2 or connectors DIMM3 and DIMM4. If possible, *do not* pair an original memory module with a new memory module. Otherwise, your computer may not function at optimal performance.

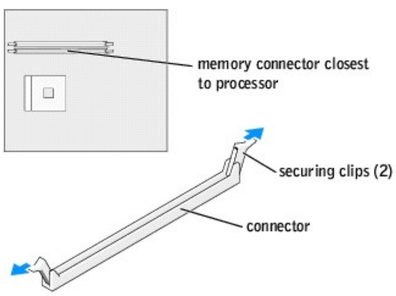
NOTE: Memory purchased from Dell is covered under your computer warranty.

Installing Memory

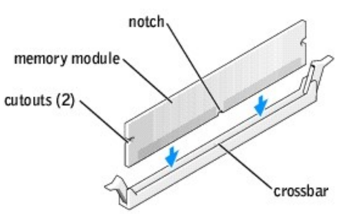
CAUTION: Before you begin any of the procedures in this section, follow the safety instructions in your *Owner's Manual*.

1. Follow the instructions in "Before You Begin."
2. Open the computer cover.
3. Lay the computer on its side so that the system board is on the bottom of the inside of the computer.
4. If necessary, remove a memory module:
   a. Press out the securing clip at each end of the memory module connector.
   b. Grasp the module and pull up.

   If the module is difficult to remove, gently ease the module back and forth to remove it from the connector.
5. To insert a module, press out the securing clip at each end of the memory module connector.



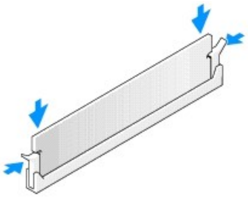
6. Align the notch on the bottom of the module with the crossbar in the connector.



NOTICE: To avoid breaking the memory module, do not press near the middle of the module.

7. Insert the module straight down into the connector, ensuring that it fits into the vertical guides at each end of the connector. Press firmly on the ends of the module until it snaps into place.

   If you insert the module correctly, the securing clips snap into the cutouts at each end of the module.



8. Close the computer cover.

NOTICE: To connect a network cable, first plug the cable into the network wall jack and then plug it into the computer.

9. Connect your computer and devices to electrical outlets, and then turn them on.
10. Click the **Start** button, right-click **My Computer**, and then click **Properties**.
11. Click the **General** tab.
12. To verify that the memory is installed correctly, check the amount of memory (RAM) listed.

PCI Cards

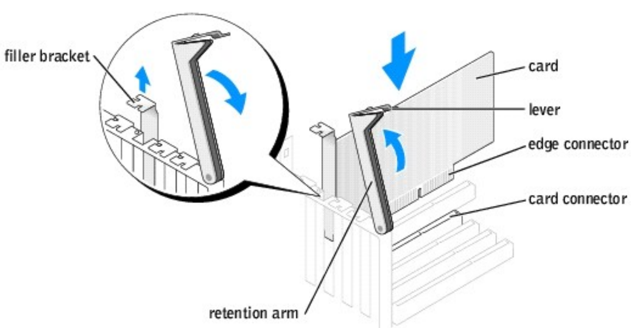
CAUTION: Before you begin any of the procedures in this section, follow the safety instructions in your *Owner's Manual*.

Your Dell™ computer provides slots for up to four 32-bit, 33-MHz cards. For more information, see "Specifications."

NOTE: For optimum performance, install a PCI sound card only in PCI slot 3 or 4 and a modem card only in PCI slot 2, 3, or 4.

Installing a PCI Card

1. If you are replacing a card, remove the current driver for the card from the operating system.
2. Follow the instructions in "Before You Begin."
3. Open the computer cover.
4. Press the lever on the card retention arm and raise the retention arm.



5. If you are installing a new card, remove the filler bracket to create a card-slot opening. Then continue with step 7.
6. If you are replacing a card that is already installed in the computer, remove the card.

   If necessary, disconnect any cables connected to the card. Grasp the card by its top corners, and ease it out of its connector.

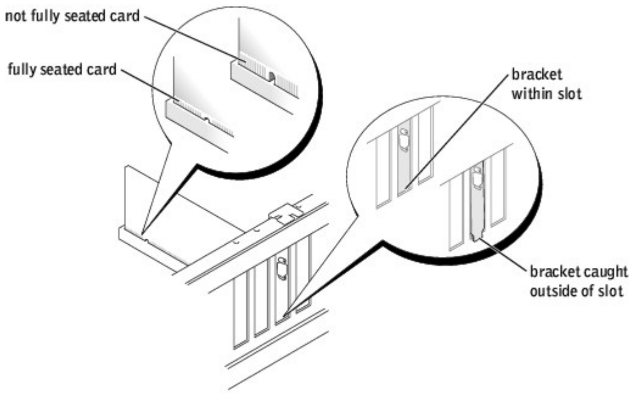
7. Prepare the card for installation.

   See the documentation that came with the card for information on configuring the card, making internal connections, or otherwise customizing it for your computer.

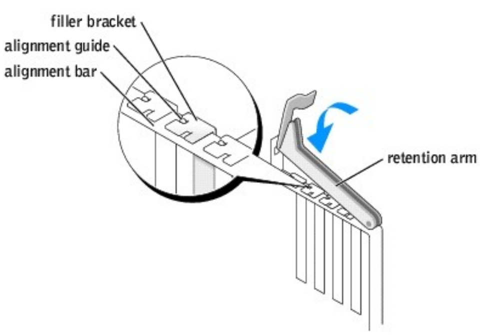
CAUTION: Some network adapters automatically start the computer when they are connected to a network. To guard against electrical shock, be sure to unplug your computer from its electrical outlet before installing any cards.

8. Place the card in the connector and press down firmly. Ensure that the card is fully seated in the slot.

   If the card is full-length, insert the end of the card into the card guide bracket as you lower the card toward its connector on the system board. Insert the card firmly into the card connector on the system board.



9. Before you lower the retention arm, ensure that:
   - The tops of all cards and filler brackets are flush with the alignment bar.
   - The notch in the top of the card or filler bracket fits around the alignment guide.
10. Press the retention arm into place, securing the card(s) in the computer.



NOTICE: Do not route card cables over or behind the cards. Cables routed over the cards can prevent the computer cover from closing properly or cause damage to the equipment.

11. Connect any cables that should be attached to the card.

    See the documentation for the card for information about the card's cable connections.

12. [Close the computer cover](#).

NOTICE: To connect a network cable, first plug the cable into the network wall jack and then plug it into the computer.

13. Connect your computer and devices to electrical outlets, and then turn them on.
14. Install any drivers required for the card as described in the card documentation.

Removing a PCI Card

1. Follow the instructions in "Before You Begin."
2. Open the computer cover.
3. Press the lever on the card retention arm and raise the retention arm.
4. If necessary, disconnect any cables connected to the card.
5. Grasp the card by its top corners, and ease it out of its connector.
6. If you are removing the card permanently, install a filler bracket in the empty card-slot opening.

   If you need a filler bracket, contact Dell.

NOTE: You must install filler brackets over empty card-slot openings to maintain FCC certification of the computer. The brackets also keep dust and dirt out of your computer.

7. Lower the retention arm and press it into place, securing the card(s) in the computer.
8. Close the computer cover.

NOTICE: To connect a network cable, first plug the cable into the network wall jack and then plug it into the computer.

9. Connect your computer and devices to electrical outlets, and then turn them on.
10. Remove the card's driver from the operating system.

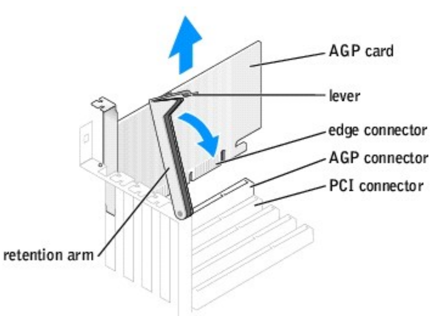
AGP Cards

CAUTION: Before you begin any of the procedures in this section, follow the safety instructions in your *Owner's Manual*.

Your Dell™ computer provides a connector for an AGP card.

Removing an AGP Card

1. Follow the instructions in "Before You Begin."
2. Open the computer cover.
3. Press the lever on the card retention arm and raise the retention arm.

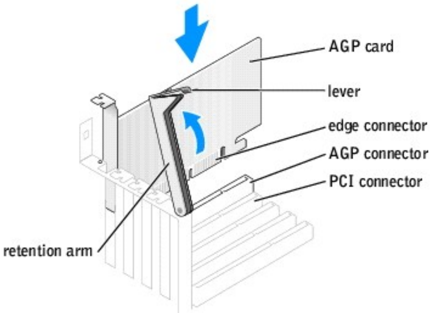


4. Pull the card up and out of the card clip.

Installing an AGP Card

1. Follow the instructions in "Before You Begin."
2. Open the computer cover.

3. Press the lever on the card retention arm and raise the retention arm.



4. Gently press the card into the AGP connector until it clicks into place, ensuring that the tab fits into the notch on the front end of the card.
5. Lower the retention arm and press it into place, securing the card(s) in the computer.
6. Close the computer cover.
7. Connect the monitor cable to the card's video connector.

NOTICE: To connect a network cable, first plug the cable into the network wall jack and then plug it into the computer.

8. Connect your computer and devices to electrical outlets, and turn them on.

Drives

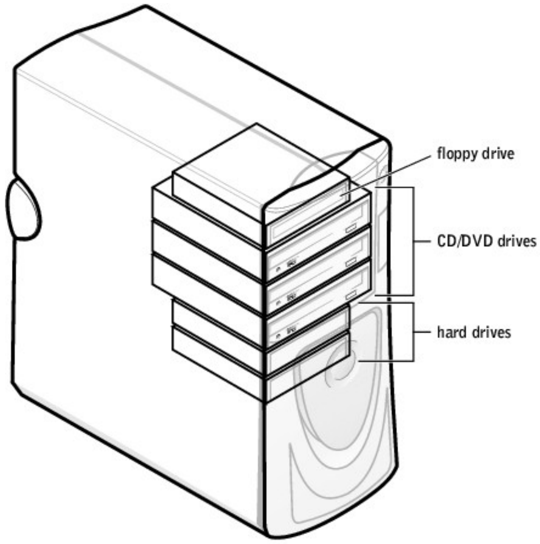
Overview

Your computer supports one floppy drive and a combination of up to four of the following:

- Either two IDE hard drives or two Serial ATA hard drives
- Two CD or DVD drives

Your computer also supports this drive combination:

- Two Serial ATA drives in either a RAID level 0 configuration or a RAID level 1 configuration
- One IDE hard drive
- Two CD or DVD drives

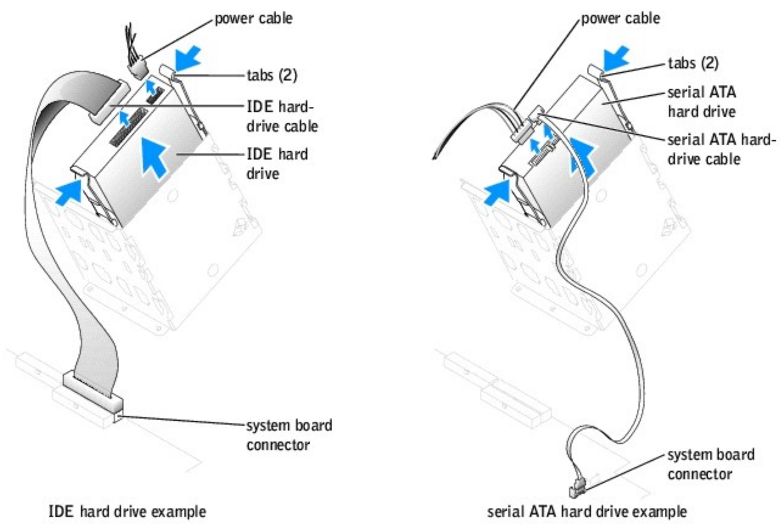


Hard Drive

⚠ **CAUTION: Before you begin any of the procedures in this section, follow the safety instructions in your *Owner's Manual*.**

Removing a Hard Drive

1. Follow the instructions in "Before You Begin."
2. Open the computer cover.
3. Disconnect the power and hard-drive cables from the drive.



4. Press in on the tabs on each side of the drive and slide the drive up and out.

Installing a Hard Drive

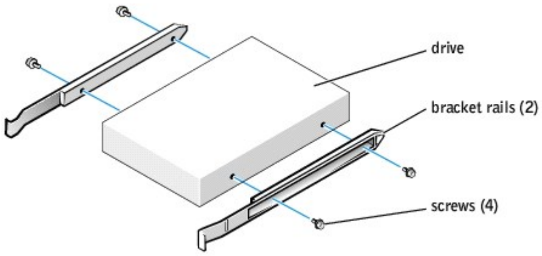
1. Unpack the replacement hard drive, and prepare it for installation.

2. Check the documentation for the drive to verify that it is configured for your computer.

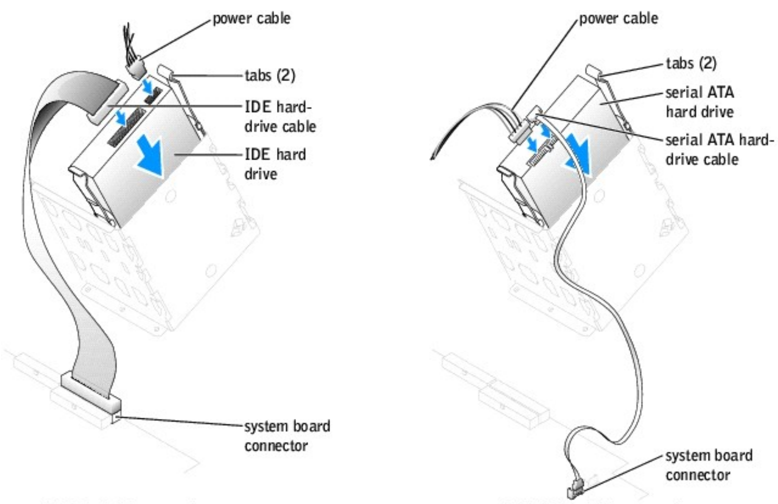
3. Follow the instructions in "Before You Begin."

4. Open the computer cover.

5. If your replacement hard drive does not have the bracket rails attached, remove the rails from the old drive by removing the two screws that secure each rail to the drive. Attach the bracket rails to the new drive by aligning the screw holes on the drive with the screw holes on the bracket rails and then inserting and tightening all four screws (two screws on each rail).



6. Install the hard drive into the computer by gently sliding the drive into place until you hear it click securely.



IDE hard drive example

serial ATA hard drive example

7. Connect the power and hard-drive cables to the drive.

8. Check all connectors to be certain that they are properly cabled and firmly seated.

9. Close the computer cover.

NOTICE: To connect a network cable, first plug the cable into the network wall jack and then plug it into the computer.

10. Connect your computer and devices to electrical outlets, and turn them on.

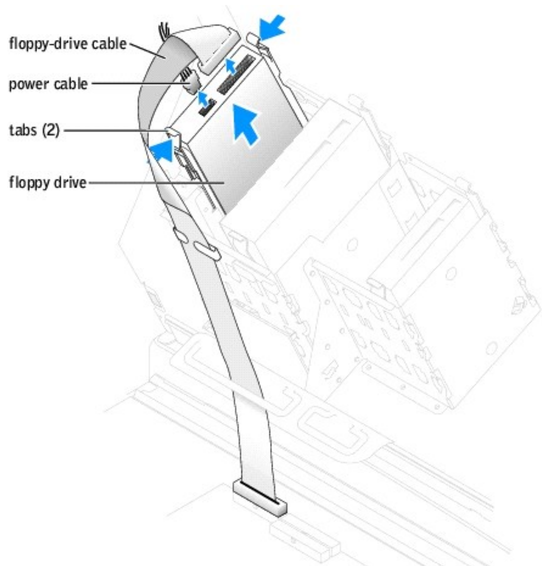
See the documentation that came with the drive for instructions on installing any software required for drive operation.

Floppy Drive

CAUTION: Before you begin any of the procedures in this section, follow the safety instructions in your *Owner's Manual*.

Removing a Floppy Drive

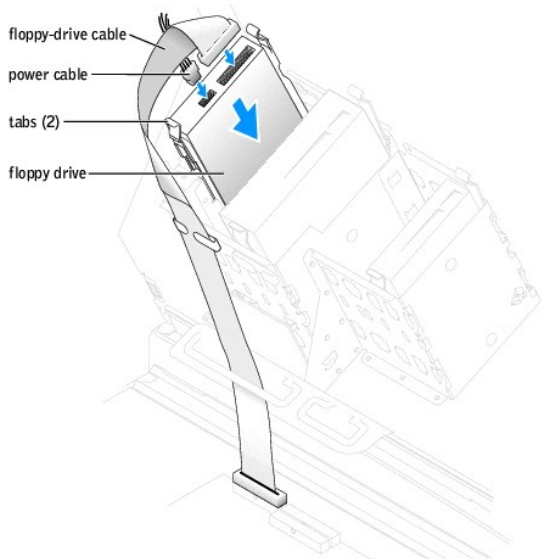
1. Follow the instructions in "Before You Begin."
2. Open the computer cover.
3. Disconnect the power and floppy-drive cables from the back of the floppy drive.



4. Press inward on the two tabs on the sides of the drive, slide the drive upward, and remove it from the floppy-drive bay.

Installing a Floppy Drive

1. Follow the instructions in "Before You Begin."
2. Open the computer cover.
3. If you are replacing a drive and the new drive does not have the bracket rails attached, remove the rails from the old drive by removing the two screws that secure each rail to the drive. Attach the bracket to the new drive by aligning the screw holes on the drive with the screw holes on the bracket rails and then inserting and tightening all four screws (two screws on each rail). See the diagram.
4. Gently slide the drive into place until the tabs securely click into position.



5. Attach the power and floppy-drive cables to the floppy drive.

6. If you are installing a new floppy drive rather than replacing a drive, remove the front- panel inserts.

From inside the drive bay, gently press on each side of the insert until it pops out.

7. Check all cable connections, and fold cables out of the way to provide airflow for the fan and cooling vents.
8. Close the computer cover.

NOTICE: To connect a network cable, first plug the cable into the network wall jack and then plug it into the computer.

9. Connect your computer and devices to electrical outlets, and turn them on.

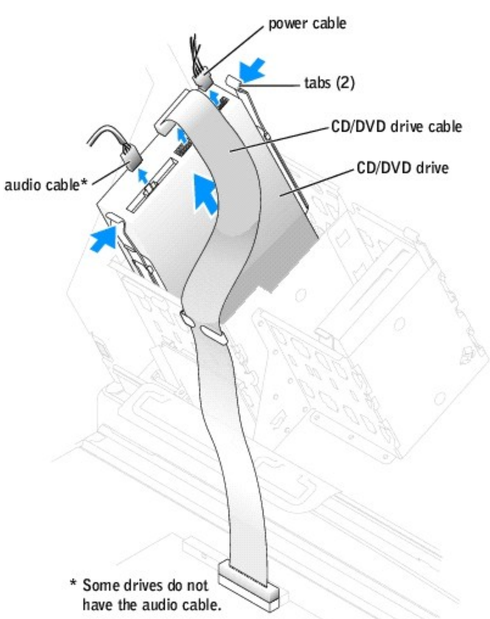
See the documentation that came with the drive for instructions on installing any software required for drive operation.

CD/DVD Drive

CAUTION: Before you begin any of the procedures in this section, follow the safety instructions in your *Owner's Manual*.

Removing a CD/DVD Drive

1. Follow the instructions in "Before You Begin."
2. Open the computer cover.
3. Disconnect the power and CD/DVD drive cables from the back of the drive.



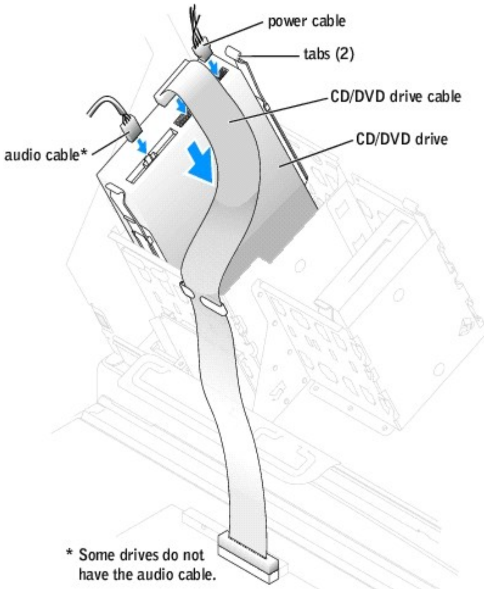
4. Press inward on the two tabs on the sides of the drive, and then slide the drive upward and remove it from the drive bay.

Installing a CD/DVD Drive

1. Follow the instructions in "Before You Begin."
2. Open the computer cover.
3. If you are installing a new drive, unpack the drive and prepare it for installation.

Check the documentation that accompanied the drive to verify that the drive is configured for your computer. If you are installing an IDE drive, configure the drive for the cable select setting.

4. Connect the new drive to the set of rails that are attached to the inside of the cover. If a set of rails is not attached inside the computer cover, contact Dell.
5. If you are installing a replacement drive and the new drive does not have the bracket rails attached, remove the rails from the old drive by removing the two screws that secure each rail to the drive. Attach the bracket to the new drive by aligning the screw holes on the drive with the screw holes on the bracket rails and then inserting and tightening all four screws (two screws on each rail). See the diagram.
6. Gently slide the drive into place until the tabs securely click into position.



7. Connect the power and CD/DVD drive cables to the drive.

If you are adding a drive that has an audio cable, connect the audio cable to the audio connector on the audio card.

8. If you are installing a new CD/DVD drive rather than replacing a drive, remove the front-panel inserts.

From inside the drive bay, gently press on each side of the insert until it pops out.

9. If you are installing a drive that has its own controller card, install the controller card in an expansion slot.

See the documentation that accompanied the drive and controller card to verify that the configuration is correct for your computer.

10. Check all cable connections, and fold cables out of the way to provide airflow for the fan and cooling vents.
11. Close the computer cover.

NOTICE: To connect a network cable, first plug the cable into the network wall jack and then plug it into the computer.

12. Connect your computer and devices to electrical outlets, and turn them on.

See the documentation that came with the drive for instructions on installing any software required for drive operation.

Processor Airflow Shroud

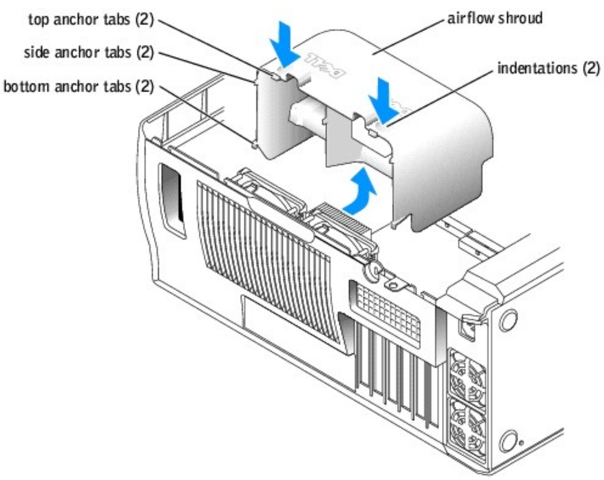
CAUTION: Before you perform this procedure, follow the safety instructions in your *Owner's Manual*.

Removing the Processor Airflow Shroud

1. Follow the instructions in "Before You Begin."
2. Open the computer cover.
3. Press down and back on the indentations at the top corners of the shroud.

   The top anchor tabs disengage from the anchor slots.

4. Lift the airflow shroud out of the chassis.



Installing the Processor Airflow Shroud

1. Follow the instructions in "Before You Begin."
2. Open the computer cover.
3. Insert the bottom anchor tabs into the anchor slots.
4. Align and insert the side anchor tabs into the anchor slots.
5. Press the indentations until the top anchor tabs on the shroud snap securely into place.
6. Close the computer cover.

NOTICE: To connect a network cable, first plug the cable into the network wall jack and then plug it into the computer.

7. Connect your computer and devices to electrical outlets, and turn them on.

Processor

CAUTION: Before you perform this procedure, follow the safety instructions in your *Owner's Manual*.

Installing the Processor

NOTE: It is recommended that only a technically knowledgeable person perform this procedure.

CAUTION: The processor can get very hot during normal operation. Ensure that the processor has had sufficient time to cool before you touch it.

1. Follow the instructions in "Before You Begin."

2. Open the computer cover.
3. Remove the processor airflow shroud.

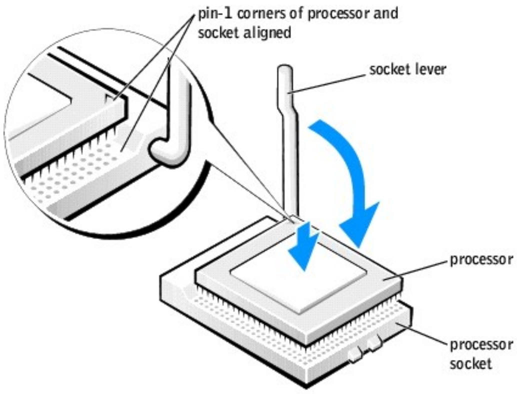
If you are replacing a processor, follow steps 4, 5, and 6 in "Removing the Processor."

NOTICE: You must position the processor correctly in the socket to avoid permanent damage to the processor and the computer.

4. If the release lever is not extended to the release position, move it to that position.
5. Align pin-1 (the imprinted corner) of the processor and pin-1 of the socket.

NOTICE: Processor pins are delicate. To avoid damage, ensure that the processor aligns properly with the socket, and do not use excessive force when you install the processor.

6. Carefully set the processor in the socket and press it down lightly to seat it.
7. Rotate the release lever back toward the system board until it snaps into place, securing the processor.



8. Install the heat sink:
   a. Insert the notched end of the heat sink onto the end of the retention base that is opposite the hinge.
   b. Lower the heat sink until it fits securely in the base.
   c. When the heat sink is secured, pivot the retention module clip back until the tab snaps into place to secure the heat sink.
9. If you installed a processor replacement kit from Dell, return the original heat sink assembly and processor to Dell in the same package in which your replacement kit was sent.
10. Replace the airflow shroud.
11. Close the computer cover.

NOTICE: To connect a network cable, first plug the cable into the network wall jack and then plug it into the computer.

12. Connect your computer and devices to electrical outlets, and turn them on.

Removing the Processor

NOTE: It is recommended that only a technically knowledgeable person perform this procedure.

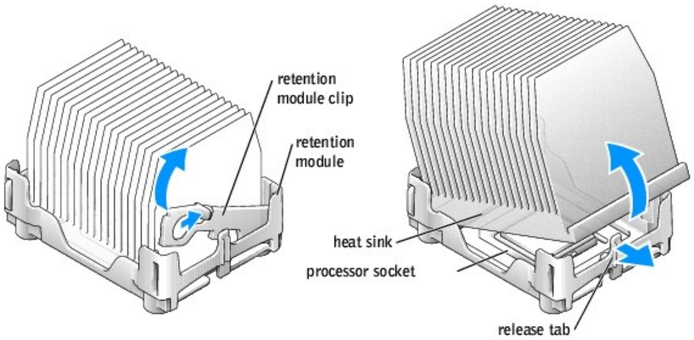
CAUTION: The processor can get very hot during normal operation. Ensure that the processor has had sufficient time to cool before you touch it.

1. Follow the instructions in "Before You Begin."
2. Open the computer cover.
3. Remove the processor airflow shroud.
4. Remove the processor heat sink:

a. Remove the retention module clip by pressing in on the tab and lifting the retention module clip up.

b. Pull the release lever out until the heat sink is released.

c. Lift the heat sink away from the processor.

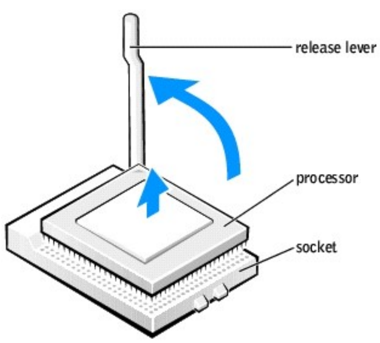


NOTICE: Lay the heat sink down with the thermal grease facing upward.

NOTICE: If you are installing a processor upgrade kit from Dell, discard the original heat sink. If you are *not* installing a processor upgrade kit from Dell, reuse the original heat sink when you install your new processor.

5. Pull the release lever straight up until the processor is released.

NOTICE: Be careful not to bend any of the pins when you remove the processor from the socket. Bending the pins can permanently damage the processor.



6. Remove the processor from the socket.

If you are replacing the processor, leave the release lever extended in the release position so that the socket is ready for the new processor and go to "Installing the Processor."

7. Replace the airflow shroud.

8. Close the computer cover.

NOTICE: To connect a network cable, first plug the cable into the network wall jack and then plug it into the computer.

9. Connect your computer and devices to electrical outlets, and turn them on.

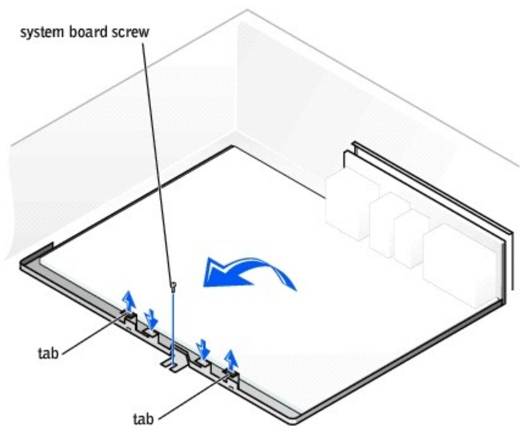
System Board

CAUTION: Before you begin any of the procedures in this section, follow the safety instructions in your *Owner's Manual*.

Removing the System Board

NOTICE: The system board and metal tray are connected and are removed as one piece.

1. Follow the instructions in "Before You Begin."
2. Open the computer cover.
3. Remove any components that restrict access to the system board.
4. Disconnect all cables from the system board.
5. Before you remove the existing system board assembly, visually compare the replacement system board to the existing system board to make sure that you have the correct part.
6. Remove the system board screw.



7. Pull up on the two tabs, slide the system board assembly toward the front of the computer, and then lift the assembly up and away.
8. Place the system board assembly that you just removed next to the replacement system board.

Replacing the System Board

1. Transfer components from the existing system board to the replacement system board:
   a. Remove the memory modules and install them on the replacement board.

CAUTION: The processor package and heat-sink assembly can get hot. To avoid burns, ensure that the package and assembly have had sufficient time to cool before you touch them.

   b. Remove the heat-sink assembly and processor from the existing system board and transfer them to the replacement system board.

2. Configure the settings of the replacement system board.
3. Set the jumpers on the replacement system board so they are identical to the ones on the existing board.

NOTE: Some components and connectors on the replacement system board may be in different locations than the corresponding connectors on the existing system board.

4. Orient the replacement board by aligning the notches on the bottom of the board with the tabs on the computer.
5. Slide the system board assembly toward the back of the computer until the assembly clicks into position.

6. Replace any components and cables that you removed from the system board. Reconnect all cables to their connectors at the back of the computer.
7. Close the computer cover.

NOTICE: To connect a network cable, first plug the cable into the network wall jack and then plug it into the computer.

8. Connect your computer and devices to electrical outlets, and turn them on.

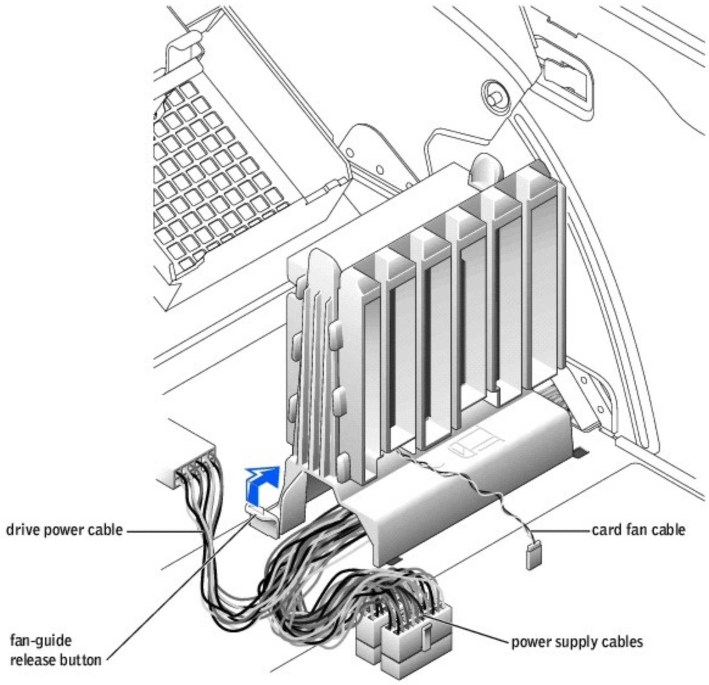
Power Supply

CAUTION: Before you begin any of the procedures in this section, follow the safety instructions in your *Owner's Manual*.

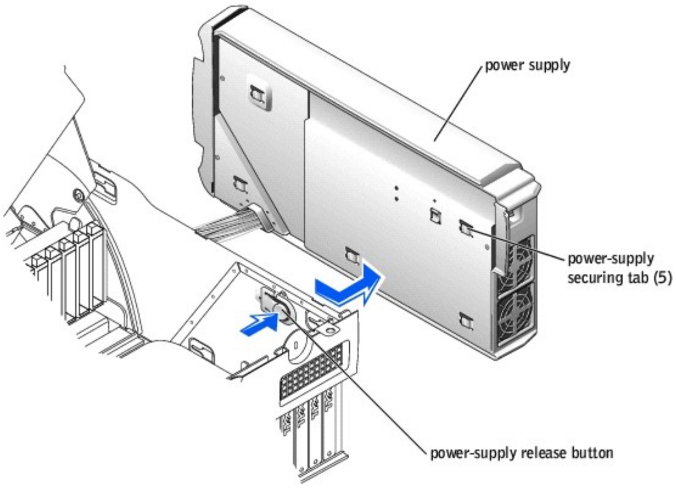
Removing the Power Supply

NOTICE: Before disconnecting a device from the computer, wait 10 to 20 seconds after disconnecting the computer from its electrical outlet. Before removing a component from the system board, verify that the standby power light on the system board has turned off. To locate this light, see "System Board Components."

1. Follow the instructions in "Before You Begin."
2. Open the computer cover.
3. Remove the card and the card fan.
4. Disconnect the power supply cables and the card fan cable.



5. Remove the card fan guide:
   a. Pull up on the fan-guide release button.
   b. Slide the card fan guide to the right.
   c. Lift the card fan guide out of the four securing slots in the computer.
6. While pressing the power-supply release button, slide the power supply toward the back of the computer.



7. Lift the power supply away from the computer.

8. Slide the power supply cables out of the computer (through the hole).

Replacing the Power Supply

1. Slide the power supply cables through the hole into the computer.

2. Insert the power-supply securing tabs into the power-supply securing slots on the computer, ensuring that each securing tab is connected to its slot on the computer.

3. Slide the power supply toward the front of the computer.

4. Install the card fan guide:

   a. Place the card fan guide into the four securing slots in the computer.

   b. Slide the card fan guide to the left until it locks into position.

5. Connect the power supply cables and the card fan cable.

6. Replace the card fan.

7. Install the card.

8. Close the computer cover and restart the computer.

Front Panel

CAUTION: Before you begin any of the procedures in this section, follow the safety instructions in your *Owner's Manual*.

Removing the Front Panel

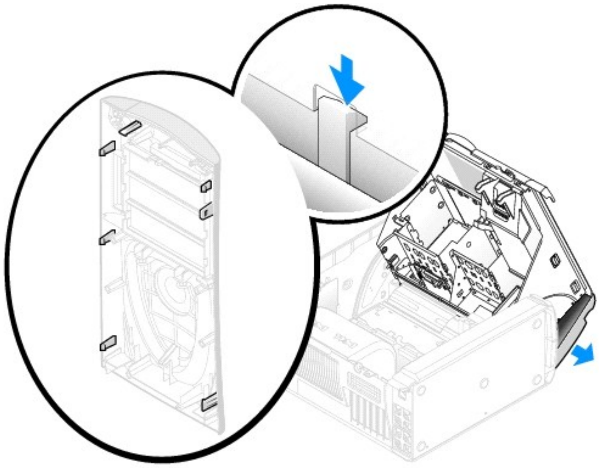
1. Follow the instructions in "Before You Begin."

2. Open the computer cover.

3. Disconnect and remove all disk drives (see "Drives").

4. Release the front panel by pressing each of the front-panel release tabs.

There are seven release tabs.



5. Close the computer cover halfway and pull the front panel away from the computer.

Replacing the Front Panel

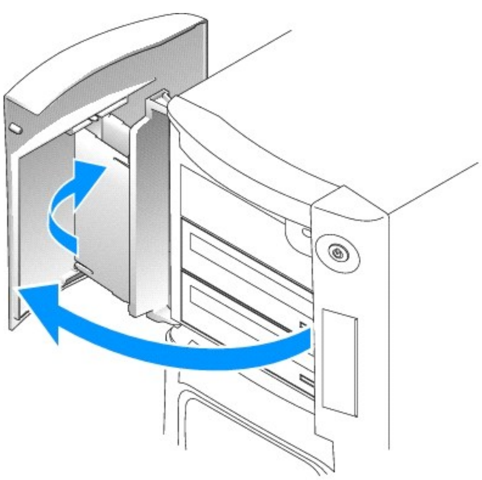
To replace the front panel, perform the removal procedure in reverse.

Drive Door

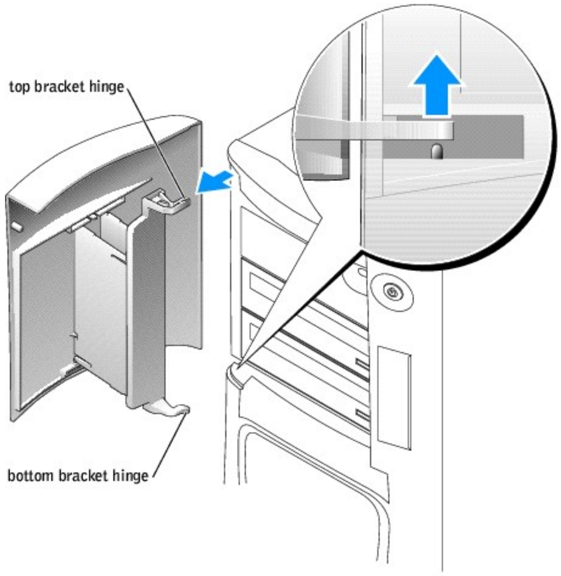
CAUTION: Before you begin any of the procedures in this section, follow the safety instructions in your *Owner's Manual*.

Removing the Drive Door

1. Open the drive door.



2. Unsnap the top bracket hinge and pull the top of the drive door outward, away from the computer.



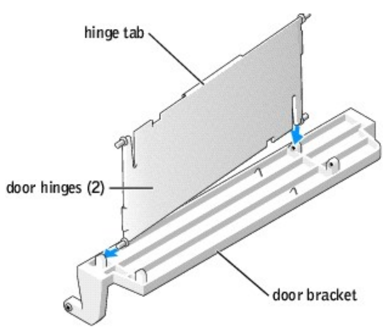
3. Lift the bottom bracket hinge away from the computer.

Replacing the Drive Door

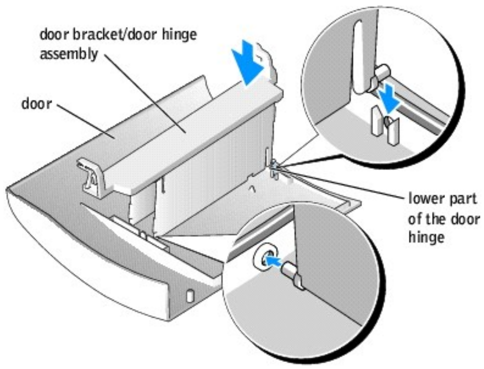
To prevent damage to your computer, the drive door is designed to "break away" from the computer if it is opened too far. If the drive door detaches from the computer without disassembling, perform the removal procedure in reverse.

If the drive door is open and it is opened too far, instead of breaking away from the computer in one piece, the drive door may disassemble into several smaller pieces. If the drive door disassembles:

1. If necessary, reattach the door hinges to the door bracket. Ensure that the hinge tabs are away from the door bracket.



2. Attach the door bracket/door hinge assembly to the door, starting with the lower part of each door hinge.



3. Attach the drive door to the computer, starting with the bottom bracket hinge.

Battery

⚠ **CAUTION: Before you begin this procedure, follow the safety instructions in your *Owner's Manual*.**

A coin-cell battery maintains computer configuration, date, and time information. The battery can last several years.

If you have to repeatedly reset time and date information after turning on the computer, replace the battery.

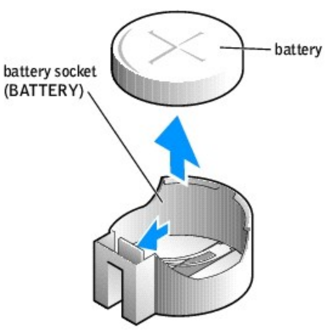
⚠ **CAUTION: A new battery can explode if it is incorrectly installed. Replace the battery only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.**

To replace the battery:

1. Record all the screens in system setup so that you can restore the correct settings in step 9.
2. Follow the instructions in"Before You Begin."
3. Open the computer cover.
4. Locate the battery socket.

NOTICE: If you pry the battery out of its socket with a blunt object, be careful not to touch the system board with the object. Ensure that the object is inserted between the battery and the socket before you attempt to pry out the battery. Otherwise, you may damage the system board by prying off the socket or by breaking circuit traces on the system board.

5. Remove the battery by carefully prying it out of its socket with your fingers or with a blunt, nonconducting object such as a plastic screwdriver.
6. Insert the new battery into the socket with the side labeled "+" facing up, and snap the battery into place.



7. Close the computer cover.

NOTICE: To connect a network cable, first plug the cable into the network wall jack and then plug it into the computer.

8. Connect your computer and devices to electrical outlets, and turn them on.
9. Enter system setup and restore the settings you recorded in step 1.
10. Properly dispose of the old battery.

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Technical Specifications

Dell™ Dimension™ XPS Service Manual

Processor	
Processor type	Intel® Pentium® 4 that runs at 2.4, 2.6, 2.8, 3.0, 3.2, and 3.4 GHz
Level 1 (L1) cache	8 KB
Level 2 (L2) cache	512-KB or 1-MB pipelined-burst, eight-way set associative, write-back SRAM
Level 3 (L3) cache	2 MB **NOTE:** L3 cache is available only with the Intel Pentium 4 processor Extreme Edition 3.20 GHz supporting Hyper-Threading technology.

Memory	
Type	400-MHz DDR SDRAM
Memory connectors	four
Memory capacities	128 MB, 256 MB, 512 MB, or 1 GB non−ECC
Minimum memory	256 MB
Maximum memory	4 GB
BIOS address	F0000h

Computer Information	
Chip set	Intel 875P
DMA channels	eight
Interrupt levels	24
BIOS chip	4-Mb
NIC	integrated PCI network interface
System clock	800-MHz data rate

Video	
Type	AGP 8X

Audio	
Type	Sound Blaster Audigy 2 sound card
Connectors	five connectors for line-in, line-out, microphone, surround, and center/Low Frequency Effects (LFE) channel

Expansion Bus	
Bus type	PCI and AGP
Bus speed	PCI: 33-MHz AGP: 133-MHz
AGP:	
connector	one
connector size	172 pins
connector data width (maximum)	32 bits

bus protocols	8x/4x/2x modes at 1.5 V
PCI:	
connector	four
connector size	120 pins
connector data width (maximum)	32 bits

Drives	
Externally accessible	one 3.5-inch drive bay three 5.25-inch drive bays
Available devices	ATA-100 Ultra DMA hard drive, serial ATA drive, CD drive, DVD drive, RAID
Internally accessible	three 3.5-inch drive bays

Connectors	
External connectors:	
Serial	two 9-pin connectors; 16550C-compatible
Parallel	25-hole connector (bidirectional)
Network adapter	10/100/1000 Ethernet connector
PS/2 (keyboard and mouse)	6-pin mini-DIN
USB	two front-panel and six back-panel USB 2.0–compliant connectors
IEEE 1394	one front-panel connector
Audio	one front-panel connector for microphone; one front-panel connector for headphones
System board connectors:	
Primary IDE drive	40-pin connector
Secondary IDE drive	40-pin connector
Floppy drive	34-pin connector
Fans (3)	3-pin connector
I/O Panel	34-pin connector
Serial ATA (2)	7-pin connector
Sound Blaster Audigy 2 sound card connectors:	
Audio	five connectors for line-in, line-out, microphone, surround, and center/Low Frequency Effects (LFE) channel
IEEE 1394	one front-panel 6-pin serial connector; one back-panel 6-pin serial connector

Controls and Lights	
Power control	push button
Power light	green light on power button—blinking green in sleep state; solid green for power-on state
Hard-drive access light	green
Link integrity light (on integrated network adapter)	green light for 10-Mb operation; orange light for 100-Mb operation; yellow light for 1000-Mbps (or 1-Gbps) operation
Activity light (on integrated network adapter)	yellow blinking light
Diagnostic lights	four lights on the back panel

Power	
DC power supply:	
Wattage	460 W
Heat dissipation	1000 BTU/hr
Voltage	fixed-voltage power supply—110 V at 50/60 Hz manual selection and auto-sensing power supplies—90 to 135 V at 50/60 Hz; 180 to 265 V at 50/60 Hz; 100 V at 50/60 Hz for Japanese computers
Backup battery	3-V CR2032 lithium coin cell

Physical	
Height	49.1 cm (19.3 inches)

Width	22.2 cm (8.7 inches)
Depth	48.8 cm (19.2 inches)
Weight	19 kg (42 lbs)

Environmental	
Temperature:	
Operating	10° to 35°C (50° to 95°F) **NOTE:** At 35°C (95°F), the maximum operating altitude is 914 m (3000 ft).
Storage	–40° to 65°C (–40° to 149°F)
Relative humidity	20% to 80% (noncondensing)
Maximum vibration:	
Operating	0.25 G at 3 to 200 Hz at 0.5 octave/min
Storage	0.5 G at 3 to 200 Hz at 1 octave/min
Maximum shock:	
Operating	bottom half-sine pulse with a change in velocity of 20 inches/sec (50.8 cm/sec)
Storage	nonoperating (half-sine pulse) 105 G, 2 ms nonoperating (faired-square wave) 27 G with a velocity change of 508 cm/sec (200 inches/sec)
Altitude:	
Operating	–15.2 to 3048 m (–50 to 10,000 ft)
Storage	–15.2 to 10,668 m (–50 to 35,000 ft)

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System Setup

Dell™ Dimension™ XPS Service Manual

Overview

Use system setup as follows:

- To change the system configuration information after you add, change, or remove any hardware in your computer
- To set or change a user-selectable option such as the user password
- To read the current amount of memory or set the type of hard drive installed

Before you use system setup, you must know the kind of floppy drive(s) and hard drive(s) installed in your computer. It is recommended that you write down the system setup screen information for future reference.

NOTICE: Unless you are an expert computer user, do not change the settings for this program. Certain changes can make your computer work incorrectly.

Entering System Setup

Viewing Settings

1. Turn on (or restart) your computer.
2. When the blue DELL™ logo appears, press <F2> immediately.

   If you wait too long and the operating system logo appears, continue to wait until you see the Microsoft® Windows® desktop. Then shut down your computer and try again.

System Setup Screens

System setup screens display the current configuration information for your computer. Information on the screen is divided into five areas:

- Title — The box at the top of all screens that lists the computer name.
- Computer data — Two boxes below the title box that display your computer processor, L2 cache, Service Tag, and the version number of the BIOS.
- Options — A scrollable box listing options that define the configuration of your computer, including installed hardware, power conservation, and security features.

  Fields to the right of the option titles contain settings or values. When <Enter> appears to the right of an option title, press <Enter> to access a pop-up menu of additional options.

- Help — A feature that gives you information on the option that is selected (highlighted) when you press <F1>.
- Key functions — A line of boxes across the bottom of all screens that lists keys and their functions within system setup.

Keys	Action
<Tab> or down arrow	Moves to the next field.
<Shift>, <Tab>, or up arrow	Moves to the previous field.

back arrow or forward arrow	Cycles through the options in a field. In many fields, you can also type the appropriate value.
<Page Down> or <Page Up>	Scrolls through help information.
<ENTER>	Enters the selected field's pop-up options menu.
spacebar, <=>, or <->	In the selected field's pop-up options menu, cycles through the options in a field.
<Alt> <x>	Exits system setup without restarting the computer and returns the computer to the boot routine.
<Alt> <b>	Exits system setup and restarts the computer, implementing any changes you have made.
<Alt> <d>	Resets the selected option to the default setting.
<Alt> <f>	Restores all system settings to the default configuration.

System Setup Options

NOTE: Depending on your computer and installed devices, the items listed in this section may or may not appear.

Drive Configuration	
Diskette Drive A	Identifies the floppy drive attached to the DSKT connector on the system board. With the standard cabling configuration, **Diskette Drive A** (the boot floppy drive) is the 3.5-inch floppy drive installed in the top externally accessible drive bay. The two options are **3.5 Inch, 1.44 MB** and **Not Installed.** Tape drives are not reflected in the **Diskette Drive A** option. For example, if a single floppy drive and a tape drive are attached to the floppy drive interface cable, set **Diskette Drive A** to **3.5 Inch, 1.44 MB**.
SATA Primary Drive	Identifies the serial ATA hard drive attached to the SATA1 connector on the system board.
SATA Secondary Drive	Identifies the serial ATA hard drive attached to the SATA2 connector on the system board (not available on the small form-factor computer).
Primary Drive 0	Identifies the IDE hard drive attached to the IDE1 connector on the system board.
Primary Drive 1	Identifies the IDE device attached to the IDE2 connector on the system board.
Secondary Drive 0	Identifies the device that is cabled with the drive on the IDE1 data cable.
Secondary Drive 1	Identifies the device that is cabled with the device on the IDE2 data cable.
IDE Drive UDMA	Sets the mode for all installed hard drives. **NOTE:** You must have an IDE device connected to the primary IDE interface if you have an IDE device connected to the secondary IDE interface.

Hard-Disk Drive Sequence	
If you insert a boot device and restart, this option appears in the system setup menu.	
System BIOS boot device	
USB Device	To boot from a USB memory device, select the USB device and move it so it becomes the first device in the list.

Boot Sequence	
Normal	(This option is available only for the current boot process.) The computer attempts to boot from the sequence of devices specified in system setup.
Diskette Drive	The computer attempts to boot from the floppy drive. If the floppy disk in the drive is not bootable, or if no floppy disk is in the drive, the computer generates an error message.
Hard Drive	The computer attempts to boot from the primary hard drive. If no operating system is on the drive, the computer generates an error message.
CD Drive	The computer attempts to boot from the CD drive. If no CD is in the drive, or if no operating system is on the CD, the computer generates an error message.
PXE	(This option is available only for the future boot process.) As the computer boots, it prompts the user to press <Ctrl><Alt><b>. Pressing this key combination causes a menu to display that allows you to select a method for booting from a network server. If a boot routine is not available from the network server, the computer attempts to boot from the next device in the boot sequence list.
USB Flash Device	Insert the memory device into a USB port and restart the computer. When `F12 = Boot Menu` appears in the upper-right corner of the screen, press <F12>. The BIOS detects the device and adds the USB flash option to the boot menu. **NOTE:** To boot to a USB device, the device must be bootable. To ensure that your device is bootable, check the device documentation.

Memory Information	
Indicates amount of installed memory, computer memory speed, amount of video memory, size of the display cache, and channel mode (dual or single).	
Installed System Memory	Displays the amount of installed system memory.
System Memory Speed	Displays the speed of your system memory.

System Memory Channel Mode	Displays the mode of your system memory.
AGP Aperture	Displays the amount of aperture memory. The default setting is **128 MB**.

CPU Information	
CPU Speed	The processor speed at which the computer boots. Press the left- or right-arrow key to toggle the **CPU Speed** option between the resident processor's rated speed (the default speed) and a lower-compatibility speed. A change to this option takes effect immediately and no restart is necessary. To toggle between the rated processor speed and the compatibility speed while the computer is running in real mode, press <Ctrl><Alt><\>. (For keyboards that do not use American English, press <Ctrl><Alt><#>.)
Bus Speed	The speed of the processor's system bus.
Processor ID	The manufacturer's identification code(s) for the installed processor.
Clock Speed	The core speed at which the processor(s) can operate.
Cache Size	The size of the processor's L2 cache.
Hyper-Threading	The setting that allows you to enables or disable Hyper-Threading technology for operating systems that support Hyper-Threading. The default setting is **Disabled**.
NOTE: If your computer has a processor capable of supporting Hyper-Threading, the Hyper-Threading option is the first selection in the list.	

Integrated Devices (Legacy Select Options)	
Configures the following devices integrated with the system board:	
Network Interface Controller	The settings are **On** (default), **Off**, or **On w/ PXE**.
Mouse Port	The settings are **On** or **Off**.
USB Emulation	The settings are **On** (default) and **Off**.
USB Controller	The settings are **On** (default) or **Off**.
Serial Port 1 and Serial Port 2	The settings are **Off** and **Auto** (default). (Serial Port 2 appears as an option if you have a serial port card installed.) **Auto** automatically configures a connector to a particular designation (**COM1** or **COM3** for **Serial Port 1**; **COM2** or **COM4** for **Serial Port 2**). If you set a serial connector to **Auto** and then add a card that is also set to **Auto**, the computer automatically remaps the integrated port to the next available connector designation that shares the same IRQ setting as follows: • **COM1** (I/O address 3F8h), which shares IRQ4 with **COM3**, is remapped to **COM3** (I/O address 3E8h). • **COM2** (I/O address 2F8h), which shares IRQ3 with **COM4**, is remapped to **COM4** (I/O address 2E8h). **NOTE:** When two COM connectors share an IRQ setting, you can use either connector as necessary, but you may not be able to use both connectors at the same time.
Parallel Port	The settings are **Mode**, **I/O Address**, and **DMA Channel**: • **Mode** settings are **PS/2** (default), **EPP**, **ECP**, **AT**, or **Off**. Set the **Mode** option according to the type of device connected to the parallel connector. To determine the correct mode to use, see the documentation that came with the device. • **I/O Address** settings are **378h** (default), **278h**, or **3BCh**. The settings are not available when **Mode** is set to **Off**. **NOTE:** You cannot set the parallel connector to **3BCh** if **Mode** is set to **EPP**. • **DMA Channel** appears only when **Mode** is set to **ECP**. Settings are **DMA 1**, **DMA 3**, or **Off**.
Diskette Interface	The settings are **Auto** (default), **Read Only**, and **Off.** • **Auto** turns off the integrated floppy drive controller when necessary to accommodate a controller card installed in an expansion slot. • **Read Only** prevents the computer's integrated floppy drive controller from writing to floppy drives and also activates the **Auto** setting.
PC Speaker	The settings are **On** (default) and **Off**.
Primary Video Controller	The settings are **Auto** (default) and **Onboard**. • **Auto** (default) — If only an AGP card is installed, the computer uses the AGP card; if only a PCI card is installed, the computer uses the PCI card; if *both* AGP and PCI cards are installed, the computer uses both cards. • **Onboard** — The computer uses the AGP card.

Power Management	
Suspend Mode	The options are **S1** or **S3**.
AC Power Recovery	Determines what happens when AC power is restored to the computer. • **Off** (default) — The computer remains off when AC power is restored. • **On** — The computer starts when AC power is restored. • **Last** — The computer returns to the AC power state existing at the time that AC power was lost.
Low Power Mode	The settings are **Enabled** and **Disabled**.

System Security
Display system security options when you press <Enter>.

Keyboard NumLock	
The settings are **On** and **Off** (these settings do not apply to 84-key keyboards).	
On (default)	Activates the rightmost bank of keys so that they provide the mathematical and numeric functions shown at the top of each key.
Off	Activates the rightmost bank of keys so that they provide the cursor-control functions shown by the label on the bottom of each key.

Report Keyboard Errors
Displays keyboard errors when set to **Report**. The default setting is **Report**.

Auto Power On
Sets time and days of week to automatically turn on the computer. Choices are every day or every Monday through Friday. Time is kept in a 24-hour format (*hours:minutes*). Change the start-up time by pressing the right- or left-arrow key to increase or decrease the numbers, or type numbers in both the date and time fields. The default setting is **Disabled**. This feature does not work if you turn off your computer using a power strip or surge protector.

Fastboot	
On (default)	Your computer starts more quickly, skipping certain configurations and tests.
Off	Your computer does not skip certain configurations and tests during the boot process.

OS Install mode
Turns the OS Install mode on and off. The default setting is **Off**.

IDE Hard Drive Acoustics Mode	
The acoustics mode field may contain the following options:	
Quiet (default)	The hard drive operates in its quietest setting.
Performance	The hard drive operates at its maximum speed. **NOTE:** Switching to performance mode may cause the drive to be noisier, but its performance is not affected.
Bypass	Your computer does not test or change the current acoustics mode setting.
Suggested	The hard drive operates at the level suggested by the hard drive manufacturer. **NOTE:** Changing the acoustics setting does not alter your hard drive image.

System Event Log
Displays the system event log when you press <Enter>.

Asset Tag
Displays the customer-programmable asset tag number for the computer if an asset tag number is assigned.

Boot Sequence

This feature allows you to change the boot sequence for devices.

Option Settings

- **Normal —** (Available only for the current boot process) The computer attempts to boot from the sequence of devices specified in system setup.
- **Diskette Drive —** The computer attempts to boot from the floppy drive. If the floppy disk in the drive is not bootable, or if no floppy disk is in the drive, the computer generates an error message.
- **Hard Drive** — The computer attempts to boot from the primary hard drive. If no operating system is on the drive, the computer generates an error message.

- **CD Drive** — The computer attempts to boot from the CD drive. If no CD is in the drive, or if the CD has no operating system, the computer generates an error message.
- **PXE —** (Available only for the future boot process) As the computer boots, it prompts the user to press <Ctrl><Alt><b>. Pressing this key combination causes a menu to display that allows you to select a method for booting from a network server. If a boot routine is not available from the network server, the system attempts to boot from the next device in the boot sequence list.
- **USB Flash Device —** Insert the memory device into a USB port and restart the computer. When `F12 = Boot Menu` appears in the upper-right corner of the screen, press <F12>. The BIOS detects the device and adds the USB flash option to the boot menu.

NOTE: To boot to a USB device, the device must be bootable. To make sure your device is bootable, check the device documentation.

Changing Boot Sequence for the Current Boot

You can use this feature, for example, to tell the computer to boot from the CD drive so that you can run the Dell Diagnostics on the *Dell Dimension Resource CD*, but you must set the computer to boot from the hard drive when the diagnostic tests are complete.

1. Turn on (or restart) your computer.
2. When `F2 = Setup`, `F12 = Boot Menu` appears in the upper-right corner of the screen, press <F12>.

   If you wait too long and the operating system logo appears, continue to wait until you see the Microsoft Windows desktop. Then shut down your computer and try again.

   The **Boot Device Menu** appears, listing all available boot devices. Each device has a number next to it.
3. At the bottom of the menu, enter the number of the device that is to be used for the current boot only.

Changing Boot Sequence for Future Boots

1. Enter system setup.
2. Use the arrow keys to highlight the **Boot Sequence** menu option and press <Enter> to access the pop-up menu.

NOTE: Write down your current boot sequence in case you want to restore it.

3. Press the up- and down-arrow keys to move through the list of devices.
4. Press the spacebar to enable or disable a device (enabled devices have a checkmark).
5. Press plus (+) or minus (−) to move a selected device up or down the list.

Clearing Forgotten Passwords

CAUTION: Before you begin any of the procedures in this section, follow the safety instructions in your *Owner's Manual*.

1. Follow the procedures in "Before You Begin."
2. Locate the 3-pin password jumper (PASS) on the system board, and attach the jumper plug to pins 2 and 3 to clear the password. The white arrow indicator indicates pin1.

NOTE: When you receive your computer, the jumper plug is attached to pins 1 and 2.

3. Close the computer cover.
4. Connect your computer and monitor to electrical outlets, and turn them on.
5. After the Microsoft® Windows® desktop appears on your computer, shut down the computer.
6. Turn off the monitor and disconnect it from the electrical outlet.
7. Disconnect the computer power cable from the electrical outlet, and press the power button to ground the system board.
8. Open the computer cover.
9. Locate the 3-pin password jumper on the system board, attach the jumper to pins 1 and 2 to reenable the password feature.
10. Replace the computer cover.

NOTICE: To connect a network cable, first plug the cable into the network wall jack and then plug it into the computer.

11. Connect your computer and devices to electrical outlets, and turn them on.

Clearing CMOS Settings

CAUTION: Before you begin any of the procedures in this section, follow the safety instructions in your *Owner's Manual*.

1. Follow the procedures in "Before You Begin."
2. Reset the current CMOS settings:
   a. Locate the CMOS jumper (CMOS) on the system board.
   b. Remove the jumper plug from its pins.
   c. Place the password jumper plug on the RTC_RDY1 pins and wait approximately 5 seconds.
   d. Remove the jumper plug RTC_RDY1 from both jumper pins and place it on one pin for safe-keeping.
3. Close the computer cover.

NOTICE: To connect a network cable, first plug the cable into the network wall jack and then plug it into the computer.

4. Connect your computer and devices to electrical outlets, and turn them on.

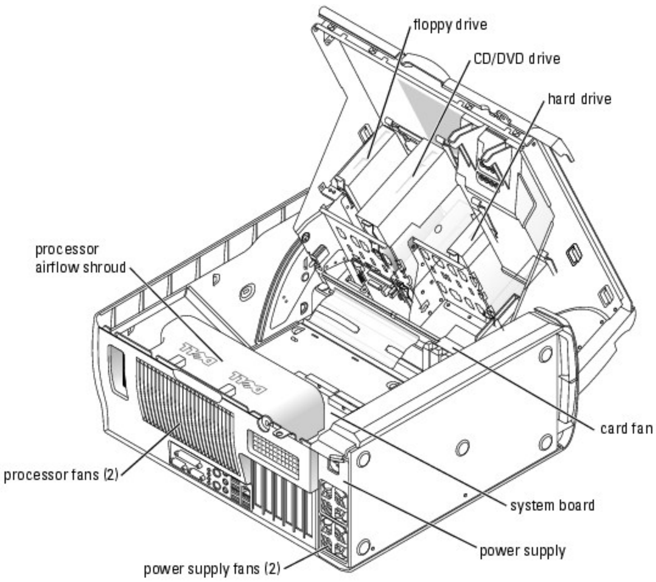
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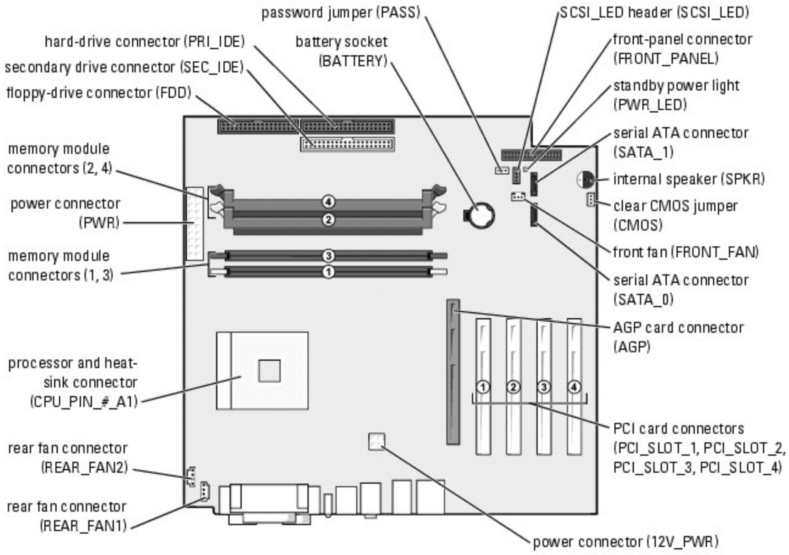
Technical Overview

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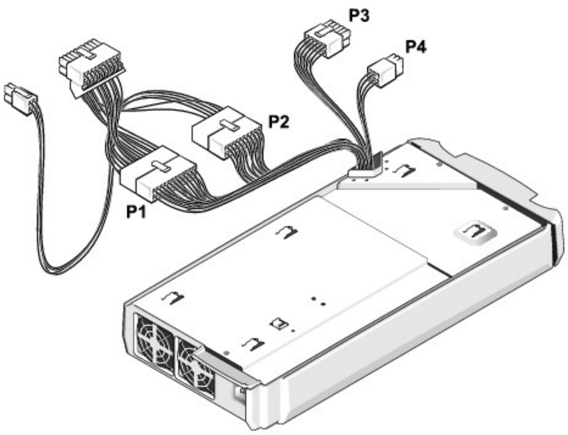
Inside View of Your Computer



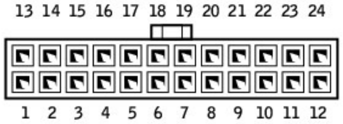
System Board Components



Power Supply DC Connector Pin Assignments



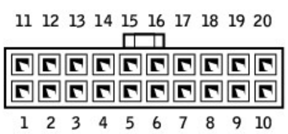
DC Power Connector P1



Pin Number	Signal name	18-AWG Wire
1	+5 VDC	Red

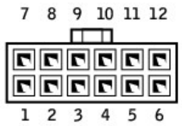
2	COM	Black
3	+5 VDC	Red
4	COM	Black
5	PWR GOOD	White
6	+5 VSB	Purple
7	+12 VA	Yellow
8	-12 V	Blue
9	COM	Black
10	COM	Black
11	+3.3 VDC	Blue and white
12	+3.3 VDC	Blue and white
13	PS-ON	Gray
14	COM	Black
15	COM	Black
16	COM	Black
17		N/C
18	+5 VDC	Red
19		N/C
20	+5 VDC	Red
21	TSFC (1)	Brown
22	+5 VDC	Red
23	+3.3 VDC	Blue and white
24	COM	Black

DC Power Connector P2



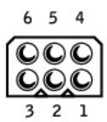
Pin Number	Signal Name	18-AWG Wire
1	+3.3 VDC	Blue and white
2	+3.3 VDC	Blue and white
3	+3.3 VDC	Blue and white
4	+3.3 VDC	Blue and white
5	COM	Black
6	COM	Black
7		N/C
8	COM	Black
9	+12 VA	Yellow
10	COM	Black
11		N/C
12	+12 VB	Orange
13	+12 VB	Orange
14	+12 VB	Orange
15	COM	Black
16		N/C
17	COM	Black
18	COM	Black
19	TSFC (2)	Pink
20	+5 VDC	Red

DC Power Connector P3



Pin Number	Signal Name	18-AWG Wire
1	COM	Black
2	+12 VA	Yellow
3	+12 VA	Yellow
4	COM	Black
5	COM	Black
6	+5 VDC	Red
7	+5 VDC	Red
8		N/C
9	+12 VB	Orange
10	COM	Black
11	COM	Black
12	+5 VDC	Red

DC Power Connector P4



Pin Number	Signal Name	18-AWG Wire
1		N/C
2	COM	Black
3	COM	Black
4	+3.3 VDC	Orange
5	+5 VDC	Red
6	+12 VDC	Yellow

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NOTE: A NOTE indicates important information that helps you make better use of your computer.

NOTICE: A NOTICE indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.

CAUTION: A CAUTION indicates a potential for property damage, personal injury, or death.

For a complete list of abbreviations and acronyms, see the *Dell Dimension Help* file.

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